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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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09/919,748

07/31/2001

Robert E. Gillis

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07/28/2004

TOWNSEND AND TOWNSEND AND CREW, LLP
TWO EMBARCADERO CENTER
EIGHTH FLOOR
SAN FRANCISCO, CA 94111-3834

EXAMINER

YIP, WINNIE S

ART UNIT

PAPER NUMBER

3637

DATE MAILED: 07/28/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/919,748

Applicant(s)

GILLIS, ROBERT E.

Examiner

Winnie Yip

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 April 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

This office action is in response to applicant's amendment filed on April 30, 2004.

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

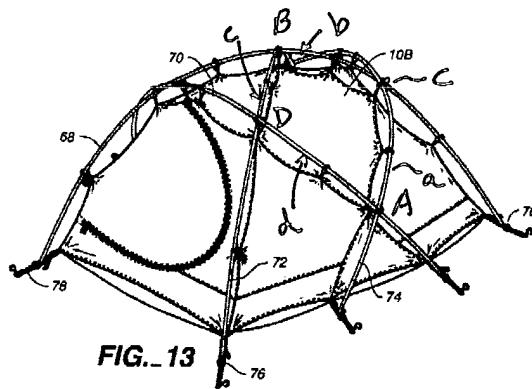
Claim Rejections - 35 USC § 103

1. Claims 1-20 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Kramer et al. (US Patent No. 5,901,727) in view of Gwin (US Patent NO.5,634,483).

Kramer et al. show and disclose a frame for a shelter structure (see attached Figs. 13, 15, and 17), comprising: a plurality of flexible poles (12) each having two terminal ends, the poles being assumed a substantially arcuate shape under tension with the two terminal ends being terminated into a common plane such as to the ground to define a dome-shaped interior volume, the poles being intersected to form a plurality of crossings including at least one four-sided openings (i.e., areas 10B of Figs. 13) are formed by the intersected poles, the four-sided opening having opposite non adjacent vertices (A, B, C, D) formed by crossings of poles and sides formed by sections (a, b, c, d) of poles, a flexible membrane (10) being connected to the poles at a plurality of points. Wherein, in Fig. 16, Kramer et al. further teach the frame includes at least one tension harness (t) connected the diagonal vertices of the opening, the tension harness also having free ends being fastened to the ends of the poles on the common plane. Kramer et al. do not define the shelter structure having at least one tension harness extending across the opening and connecting the non-adjacent pair of diagonal vertices of the opening as claimed. Gwin teaches a shelter structure having a plurality of poles (37, 36) being connected together to define a plurality of four-sided openings (i.e., between poles 36, 37), at least one tension harnesses (28)

extending diagonally across the opening and connecting each non-adjacent pair of diagonal vertices for providing stronger support to the flexible membrane (18) supported thereon (see col. 1, lines 55, 57). It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the shelter structure of Kramer et al. having suitable tension harnesses extending diagonally across the openings of the poles and directly connecting the non-adjacent diagonal vertices of the openings as taught by Gwin for providing the shelter frame with a strongly support to the flexible membrane at the locations of openings.

In regard to claims 5-7 and 12-15, it is common engineering practice to provide suitable numbers of tensions harnesses extending across and connecting suitable non-adjacent pairs of vertices of openings in various arrangement as claimed as an obvious matter of design choice for providing a frame with suitable tensioning support for various applications.



2. Claims 1-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bryant (US Patent No. 5,117,852) in view of Eubank, Jr. (US Patent NO. 3,889,433).

Bryant shows and discloses a frame for a dome shaped shelter structure, comprising: a plurality of flexible and resilient poles (i.e., 18, 20, 22, 24, 26) being arranged in intersecting relationship with a plurality of pole crossings formed therebetween (i.e., 76, 80, 84), at least one

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four sided opening (i.e., 136, 142, 144) is formed between the pole crossings defining two non-adjacent pairs of vertices and having sides defined by sections of the poles, each pole having two terminal ends being positioned in a common plane (48) to thereby define a substantial dome shaped interior volume, at least some pairs of intersecting poles (i.e., 22, 24; and 18, 20) being connected together near at least one of the pole crossings (i.e., 58, 60), and a membrane (12) is connected to poles for covering the interior volume. Bryant does not define the frame comprising at least one tension harness extending substantially diagonally across the at least one four sided opening and directly connecting a non-adjacent pair of vertices of the opening. Eubank, Jr. teaches a frame for shelter structure, comprising a plurality of arcuate poles (i.e. 84, 80) being arranged in intersecting relationship with a plurality of pole crossings formed therebetween, and a plurality of four sided openings is formed between the pole crossings, at least one tension harness (i.e., 39, 36, 54, 55, 82) extending substantially diagonally across the opening and directly connecting a non-adjacent pair of vertices (i.e., 30, 31; 30, 33; or 33, 32; or 76, 73) of at least one opening for providing compressing forces between the poles to provide stronger support to the membrane. Bryant further teaches the frame having a plurality of tension harnesses each extending diagonally across and directly connecting a plurality of pair of non-adjacent vertices of a plurality of openings, and having free ends fastened to a common plane. It would have been obvious to one ordinary skill in the art at the time the invention was made to modify the frame of Bryant having at least one tension harness extending substantially diagonally across one or more four sided openings and directly connecting a non-adjacent pair of vertices of each opening in various obvious arrangement as taught by Eubank, Jr. for providing

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tensile forces to the poles for placing the frame with forces in equilibrium and for strongly supporting the membrane disposed over the openings of the poles.

Response to Amendment

In response to applicant's argument that the examiner's conclusion of obviousness is based upon improper hindsight reasoning, it must be recognized that any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning. But so long as it takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made, and does not include knowledge gleaned only from the applicant's disclosure, such a reconstruction is proper. See *In re McLaughlin*, 443 F.2d 1392, 170 USPQ 209 (CCPA 1971). In regard to applicant's argument of Kramer et al. and Gwin both does not teach or suggest all structural limitations suggested as claimed, we agree that this is so, otherwise our rejection would have been entered under section U.S.C. 102 of the statute. In this case, the references to Kramer et al. and Gwin both disclose a frame for a shelter structure comprising poles and covered by a membrane. Kramer et al. discloses a frame having poles being joined in arrangement as the claimed invention. Gwin is used as a teaching references only to teach that using tension harness (28) diagonally connecting the non-adjacent pair of vertices of the openings (15) formed by the pole structures (36, 38) for providing tensile forces to the structural of poles and for strongly supporting a cover membrane mounted on the frame which solves the same problem as defined by applicant. Therefore, it would have been obvious to one ordinary skill in the art at the time the invention was made to combine two references to solve the same problem of claimed invention. Whether not or the Gwin's structure is a dome

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shape is not held the claimed invention overcome the prior art of record. Therefore, the discussions supra and in the previous action again apply.

Inquiry Contacts

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Winnie Yip whose telephone number is 703-308-2491. The examiner can normally be reached on M-F (9:30-6:30), Second Monday off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lanna Mai can be reached on 703-308-2486. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-1113.


Winnie Yip
Primary Examiner
Art Unit 3637

wsy
July 23, 2004